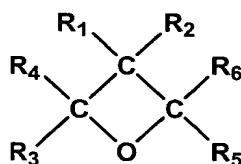


What is claimed is:

1. An actinic ray curable composition containing a photo acid generator, and an oxetane compound I represented by the following formula 1,

Formula 1



wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, and wherein the longer C-O bond distance of the two C-O bond distances in formula 1 is from 0.1464 to 0.1500 nm.

2. The actinic ray curable composition of claim 1, wherein R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> in formula 1 atom are not simultaneously hydrogen atoms.

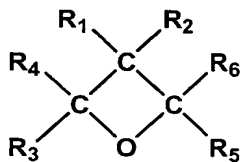
3. The actinic ray curable composition of claim 1, wherein the composition further contains an oxetane compound II having one oxetane ring which falls outside formula 1 or an oxetane compound III having two or more oxetane rings.

4. The actinic ray curable composition of claim 1, wherein the composition further contains an oxirane compound having an oxirane ring.

5. The actinic ray curable composition of claim 1, wherein the composition has a viscosity at 25 °C of from 7 to 50 mPa·s.

6. An actinic ray curable composition containing a photo acid generator, and an oxetane compound I' represented by the following formula 1,

Formula 1



wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ , and  $R_6$  independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, and wherein in formula 1, the longer C-O bond distance of the two C-O bond distances is from 0.1435 to 0.1461 nm, and the oxygen atom has a charge of from -0.330 to -0.281.

7. The actinic ray curable composition of claim 6, wherein  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$  in formula 1 atom are not simultaneously hydrogen atoms.

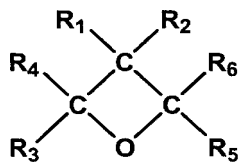
8. The actinic ray curable composition of claim 6, wherein the composition further contains an oxetane compound II having one oxetane ring which falls outside formula 1 or an oxetane compound III having two or more oxetane rings.

9. The actinic ray curable composition of claim 6, wherein the composition further contains an oxirane compound having an oxirane ring.

10. The actinic ray curable composition of claim 6, wherein the composition has a viscosity at 25 °C of from 7 to 50 mPa·s.

11. An actinic ray curable ink, containing pigment, a photo acid generator, and an oxetane compound I represented by the following formula 1,

Formula 1

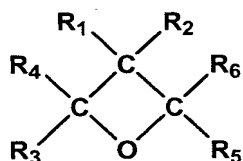


wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ , and  $R_6$  independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6

carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, and wherein the longer C-O bond distance of the two C-O bond distances in formula 1 is from 0.1464 to 0.1500 nm.

12. An actinic ray curable ink, containing pigment, a photo acid generator, and an oxetane compound I' represented by the following formula 1,

Formula 1



wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, and wherein in formula 1, the longer C-O bond distance of the two C-O bond distances is from 0.1435 to 0.1461 nm, and the oxygen atom has a charge of from -0.330 to -0.281.

13. An image forming method comprising the steps of:  
ejecting droplets of the actinic ray curable ink of claim 11 through a nozzle of an ink-jet recording head onto a

recording material to deposit the ink on the recording material; and

irradiating the ink on the recording material employing an actinic ray, 0.001 to 2.0 seconds after the ejected ink has been deposited on the recording material, whereby the cured ink layer is formed.

14. The image forming method of claim 13, wherein the thickness of the cured ink layer is from 2 to 20  $\mu\text{m}$ .

15. The image forming method of claim 13, wherein the volume of the ink droplets to be ejected is from 2 to 15 pl.

16. The image forming method of claim 13, wherein the ejecting of the actinic ray curable ink is carried out at 35 to 100 °C.

17. An image forming method comprising the steps of:  
ejecting droplets of the actinic ray curable ink of claim 12 through a nozzle of an ink-jet recording head onto a recording material to deposit the ink on the recording material; and

irradiating the ink on the recording material employing an actinic ray, 0.001 to 2.0 seconds after the ejected ink has been deposited on the recording material, whereby the cured ink layer is formed.

18. The image forming method of claim 17, wherein the thickness of the cured ink layer is from 2 to 20  $\mu\text{m}$ .

19. The image forming method of claim 17, wherein the volume of the ink droplets to be ejected is from 2 to 15 pl.

20. The image forming method of claim 17, wherein the ejecting of the actinic ray curable ink is carried out at 35 to 100 °C.